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ABSTRACT

Based on data gathered and analyzed for the Home Information Technology Study (HITS), which was jointly sponsored by the Center for Education Statistics in the U.S. Department of Education and the Corporation for Public Broadcasting to study informal, nonschool learning in households, this report focuses on the use of computers in home study. The following topics are discussed: (1) availability of hardware and software; (2) use of computers in the home; (3) computers and the users' most important learning activity; (4) learning style preference and computers; (5) awareness of potentially helpful computer programs; and (6) attitudes toward computers as learning aids. Tables include comparisons between the use of computers and the use of other technologies and resources--books/magazines, television, videocassette, records, radio, and audiocassette--by the four age groups surveyed (2-5, 6-11, 12-17, and 18 and over). Comparison is also made between learning style preference and use or nonuse of technology. The percent of each age group that knew about the potential helpfulness of a particular resource is also given, as well as the percent who actually used that resource, and perceived helpfulness ratings are shown for each resource whether or not it was actually used. (MES)

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Use of Computers in Home Study

Center for Education Statistics
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Use of Computers in Home Study

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Foreword

Since 1970, the Center for Education Statistics (CES) of the U.S. Department of Education and the Corporation for Public Broadcasting (CPB) have cost-shared a research program of statistical inquiry, analysis, and reporting designed to improve program administration and long-term planning in the field of educational technology and broadcasting. Our mutual public interest responsibilities with respect to the educational impacts of broadcasting and related applications of electronic technologies led to a cooperative 3-year contract with CPB to explore the use of instructional technology in three major settings or levels: (1) elementary and secondary schools; (2) institutions of higher education; and (3) households.

As part of this 3-year research contract with CPB, the Home Information Technology Study (HITS) explored informal, nonschool learning in households. It sought answers to the following questions: What topics are of most interest, to whom, and what role does technology play in such learning? Two major contractor reports were produced from this study. Both are being published by the Office of Educational Research and Improvement (OERI) of the U.S. Department of Education. The first, *Use of Electronic Information Technologies for Non-School Learning in American Households*, focuses on information technology and its availability and use for educational purposes in the home. The companion report focuses on the decisions and processes involved in informal learning (*Out-of-School Learning Among Children, Adolescents, and Adults*).

This report was developed from data gathered and analyzed for the first contractor report described above. The purpose of this report is to summarize from the HITS survey the data on the use of computers in home study. The tables include comparisons between the use of computers and the use of other technologies and resources by the four age groups surveyed (2-5, 6-11, 12-17, and 18 and over). Comparisons are also made among various learning style preferences and use or nonuse of technology. The percent of each age group who knew about the potential helpfulness of a particular resource is also given, as well as the percent who actually used that resource. Perceived helpfulness ratings are shown for each resource, regardless of whether or not the resource was actually used.

The above-described collaborative research projects jointly sponsored by CES and CPB were a part of the Center's overall educational technology program. Through the support of former Secretary Terrel H. Bell's educational technology initiative, a 10-year research plan was developed and partially funded. It included the research partnership activities of CES and CPB.

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For More Information

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Highlights

• Books and magazines are used more often and viewed more favorably than computers as learning tools in American homes.

• Computers are being used, however, in computer-owning households for informal, nonschool learning. Males are more likely than females to use computers for nonschool learning and to use them more hours in the day.

• Females who use computers for home study are more likely to be youths (age 6-11) or teens (age 12-17) rather than preschoolers (age 2-5) or adults (age 18 and over).

• Computers are about three times more likely to be used for intellectual learning than for practical or recreational learning, except for 2-5-year-olds, who do not exhibit a difference in the use of computers by type of learning.

• Of the parents of 2-5-year-olds in this study, 72 percent selected an intellectual activity over a practical activity as the most important learning activity that his or her child engaged in during the previous year.

Introduction

Education as an enterprise has undergone many changes in the last 25 years, with some significant ones occurring in the last 5 to 10 years. No longer is the domain of education restricted to a structured classroom setting with a lecture format. Much of education and training are now occurring in the work place; and a substantial amount of learning is being accomplished informally in the home.

As a result of the recent explosion in the manufacturing of new electronic information technologies (e.g., computers and videocassette recorders), their diminishing costs, and their link with education through the schools, competition for new educational markets for these products is very keen. In addition, the older electronic information technologies (e.g., radios, stereos, and motion picture projectors) are competing with the newer ones for the consumers' limited budgets. Therefore, the home audience is rapidly becoming an "educational" target for the electronic media manufacturers and distributors.

In particular, many parents are feeling pressure from advertisers to buy a home computer[1] so that their children can keep up with their peers in school. Although no parent wants his or her child to be left behind in the information age, many parents are skeptical about making the initial investment of capital in the hardware—Is it really worth it? Will my child use it? Will the computer help my child to make better grades? What software should I have? The list of questions goes on.

The purpose of this report is to summarize the findings from the Home Information Technology Study (HITS) on the use of computers in informal learning[2] in the home. This study was jointly sponsored by the Center for Education Statistics (CES), in the Office of Educational Research and Improvement (OERI), of the U.S. Department of Education; and the Corporation for Public Broadcasting (CPB). Some of the answers to the items in the survey may help parents, educators, administrators, policymakers, and software and hardware manufacturers and distributors to plan, develop, produce, market, purchase, and use resources for the education of America's children.

Some of the findings from this survey were predictable; others, surprising. Some differences occurred in the use of certain resources by type of learning (intellectual[3] or practical-recreational.[4] Differences were also found in the most important learning activity[5] by age. The data tables presented in this report were excerpted from the contractor report produced from the survey.[6]

What is the role of computers in home study? This report attempts to clarify their role in conjunction with, or in contrast to, the role of other resources in home learning.

Availability of Computer Hardware and Software

By mid-1985, an estimated 13 percent of all adults in U.S. households reported that someone in their household owned a computer.[7] About one out of five children (17 years old and under) had access to a computer at home (table 1). Personal computers were rarely available in households with family incomes of less than $10,000 (3 percent); whereas, about one-quarter of the adults in the wealthiest households reported owning a computer (table 2). Computers were about twice as likely to be available to children in two-parent households as to those in single-parent households (table 3).

According to the adults surveyed, the brand of home computer most commonly owned was Commodore (33 percent), followed by Apple (18 percent) and Texas Instruments (16 percent) (table 4). About three-fourths of adults in computer-owning households reported having at least one peripheral for the basic unit (table 5). The most frequently available peripheral mentioned was disk drives (66 percent), followed by printers (55 percent) and monitors (48 percent).

Some kind of educational software was reported available for about 80 percent of adults and 90 percent of children under 12 (table 6). The median number of software programs in computer-owning households was three (not in tables). Computer Basics was the most frequently named educational software package available to all age groups in the study (about two-thirds of each group). Math and spelling software were significantly more available to 6-11-year-olds (72 percent and 53 percent, respectively) than to teens (51 percent and 32 percent, respectively). Only 22 percent of adults reported no educational software available. Even fewer parents or guardians of children reported having no educational software.

Use of Computers in the Home

About 40 percent of adults and preschoolers in computer-owning households did not use the computer at all in a typical week (table 7). About half of the children and about one-third of the adults used the computer only 1-5 hours a week.

In all age groups, males were substantially more likely than females to use the computer and to use it for more hours (table 8).

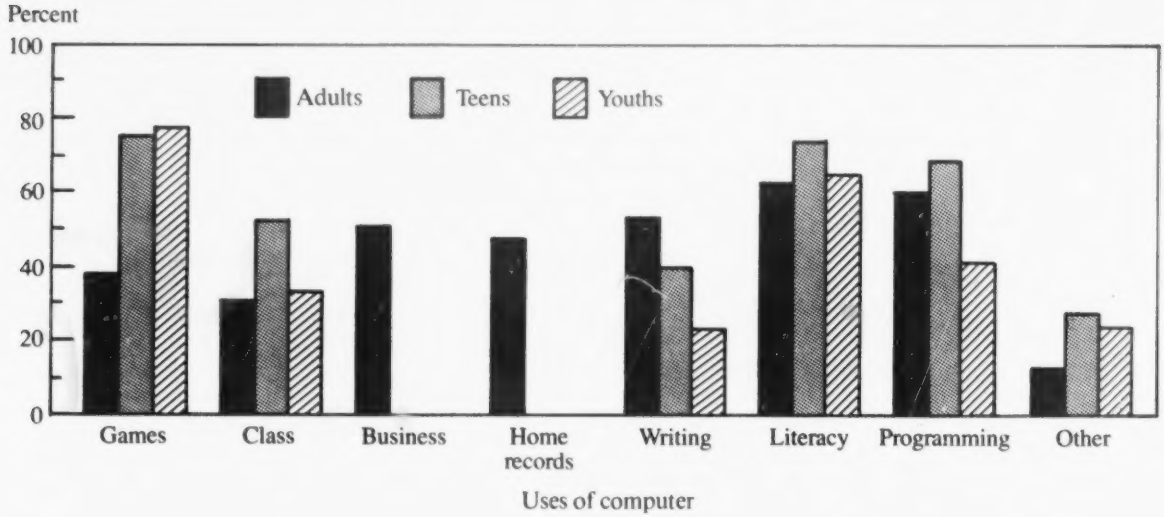
As figure 1 shows, personal computers may be used for a variety of purposes in the home. (This analysis is restricted to sample members who used computers. It excludes 2-5-year-olds). Although children were much more likely to use computers for entertainment (about 75 percent) than were adults (38 percent), about two-thirds or more of each group also used them for learning about computers (table 9). More teenagers (52 percent) than any other group used the computer to work on student class assignments. For every type of computer use, the amount of actual use was less than the amount anticipated before purchase (table 10).

Computers in Most Important Learning Activity

Survey respondents were asked to identify their most important learning activity. They were also asked which learning resources (other than people) they used in pursuing this activity. Although the types of learning activities identified as most important (see note 5) varied widely, printed material (books or magazines) was by far the most frequently reported resource for all age groups (about 80 percent—see tables 11-14 for age breakdowns). Computers were more likely to be used in children's learning activities (about 40 percent) than in adults' learning (26 percent). (Figure 2 depicts the proportion of parents of 2-5-year-olds who used various resources.)

The various learning activities identified by respondents were combined into two types of learning: practical-recreational or intellectual. While books or magazines were used by most learners, regardless of type of learning or age group, they were used most extensively for intellectual learning (about 90 percent). Similarly, computers were almost three times as likely to have been used for intellectual

Figure 1.—Actual computer use, by age group



learning as for practical-recreational learning, except for 2-5-year-olds, who showed no difference in their use of computers by learning type.

When the most important learning activity was analyzed by specific learning categories within practical-recreational and intellectual type, some significant differences were found in the use of computers, both within and across age groups. For example, although parents of 2-5-year-olds generally were substantially more likely to choose intellectual activities (72 percent) than practical-recreational activities (28 percent), persons who used "no print or technology" in their most important learning were more likely to have chosen practical-recreational skills (table 15). This difference was attributable mostly to sports versus reading. A rather large group of parents of 2-5-year-olds used all of the resources, including computers, in their children's learning to read (42 percent). In comparison, learning social skills was the most popular practical-recreational activity that involved all of the resources, including computers, chosen by parents of 2-5-year-olds (18 percent).

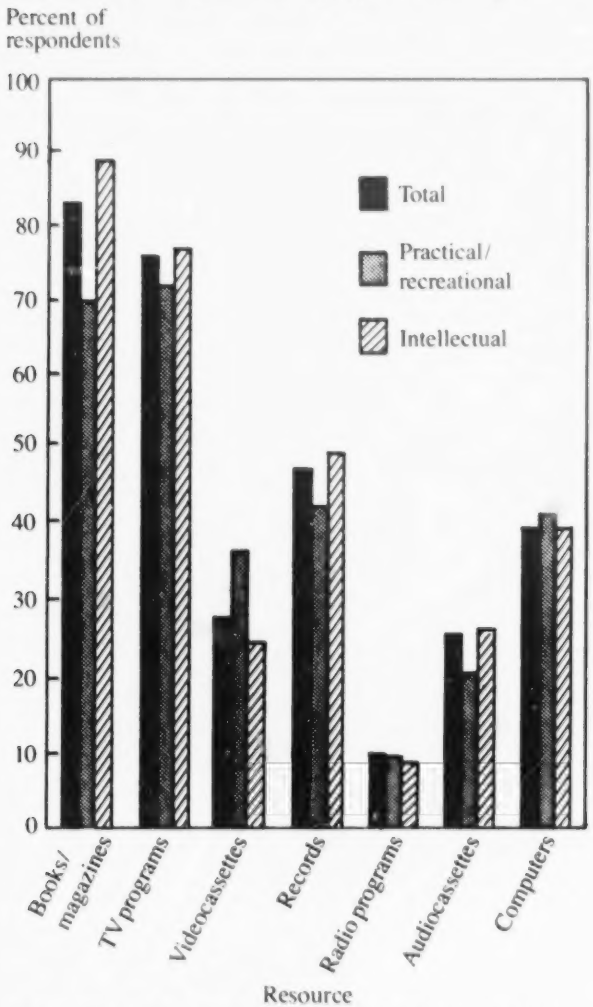
Selection of computers as the *topic*, as distinguished from use of computers as a resource, for the most important learning activity varied by age group (tables 16-18). The highest participation rate for selecting computers as a learning *topic* was for 12-17-year-olds (table 17), chosen by 11 percent of their parents. In contrast, only 1 percent of parents of 2-5-year-olds (table 15) chose computers as the main *topic* as did 4 percent for 6-11-year-olds (table 16) and 8 percent by adults for themselves (table 18).

Learning Style Preference and Computers

In addition to the availability of equipment and the type of learning involved, another variable that may influence the selection of a particular resource is learning style preference. Some people, for example, prefer individual learning to group learning; or some prefer using people instead of books as their learning resource. Still others may prefer to let someone else set the learning pace. The results from the

survey are based on adults' preceptions of their children's learning style preferences.

Figure 2. — Resources used for 2-5-year-olds in their most important learning activity, by type of learning



Note. — Analysis restricted to sample members in households with appropriate technology available who reported some learning during the past year.

Computers were somewhat more likely to be used in learning by persons who prefer individual to group learning, as well as by persons who prefer to set their own learning pace rather than having the pace set by others (tables 19-22). Although the majority of persons (70 percent or more) of all ages used print resources regardless of "individual" or "group" learning style preference, teenagers and adults with the "individual" learning preference were somewhat more likely than younger learners to use books or magazines.

Awareness of Potentially Helpful Computer Programs

The choice of resources is limited not only by the availability of equipment, but also by the learners awareness of program material (i.e., learning resources) that could be helpful in the learning task. A large portion (82-88 percent) of learners were aware of books or magazines that could have helped them in their learning (table 23). However, a lesser proportion (36-58 percent) of learners were aware of specific computer program materials that could have helped them in their learning. Parents or guardians of 2-5-year-olds were substantially more likely (58 percent) than adults responding about their own learning activities (36 percent) to know about potentially helpful computer programs.

When aware of specific materials that could be potentially helpful, substantially more people tended to use available resources regardless of the learner's age (table 24). Of the respondents who were aware of specific program materials that could be used as aids in their most important learning, 70 percent or more used computer programs. Nonetheless, although awareness and use were more widespread for print materials (93-94 percent) than for computers, the gap between the use of print versus computers was narrowed when awareness was considered.

When nonuse was examined (table 25), the majority of nonusing learners in all age groups reported being unaware of any potentially helpful program materials (71-90 percent).

Attitudes Toward Computers as Learning Aids

Because attitudes can influence decisions, respondents were asked to rate how helpful various learning resources might be, regardless of whether or not they had used the resource. The resources were rated by type of learning activity (tables 26-29).

In general, those who used a particular resource rated it positively. The vast majority (95 percent or more) of the learners were satisfied with the amount learned, whether or not they had used technology in the process. However, the combined group of users and nonusers found only two types of resources to be helpful: print materials and television programs. While about half of these respondents viewed computer programs as not helpful for children's learning, 72 percent rated computer programs as not helpful for adults' learning. However, when type of learning was considered, proportionately more respondents for all age groups viewed computers as more helpful for intellectual learning than for practical-recreational learning.

Survey Background

The survey was conducted to provide current estimates of the availability and accessibility of information technologies and related program materials in American households. It also sought to examine how, by whom, and to what extent these household technologies or resources are used for informal learning, as well as the decisions and processes involved.

The sample consisted of household members in four age groups: 2-5-year-olds, 6-11-year-olds, 12-17-year-olds, and adults (18 years old and over). A computer-assisted telephone interview (CATI) system was employed, and household identification was accomplished through the Mitofsky-Waksberg random digit dialing procedure.[8] The complete sampling procedure involved screening randomly selected telephone numbers to identify households, rostering household members with respect to age and sex to determine household composition, and selecting household members within rostered households according to predetermined selection rates for each of the four age groups. Targeted sample sizes for each age group were: 2,203 2-5-year-olds, 1,102 6-11-year-olds, 552 12-17-year-olds, and 1,650 adults.[9] The final sample represents approximately 13,400,000 2-5-year-olds, 18,300,000 6-11-year-olds, 22,900,000 12-17-year-olds, and 164,000,000 adults.

Four separate questionnaires (one for each age group) and a household screening form were designed for use in telephone interviewing. Since these questionnaires represented major revisions of earlier field test instruments, they were pretested, after which they were further modified for administration by telephone. Adult sample members were interviewed directly, but proxy interviews with an adult family member (i.e., the parent or guardian most involved in the child's education) were conducted for all sample members under 18 years old.

All telephone interviewers received extensive training over a 2-day period, both in general CATI operations and in the specific administration of each HITS interview item. Data were collected over a period of approximately 4½ months, from February 11 to June 22, 1985. Telephone interviewing was conducted 7 days a week, with two interviewing shifts. Up to 18 interviewers were employed per shift; and two supervisors provided assistance and quality control, including "listen-in" monitoring of actual interviews performed by each interviewer.

A sampling weight was assigned to each member in the original sample to account for unequal selection probabilities; these weights were further adjusted for nonresponse to reduce the potential bias. Adjusted weights were then used to estimate results for the total populations of 2-5-year-olds, 6-11-year-olds, 12-17-year-olds, and adults in the Nation. All statements of comparison in the text are significant at the 90 percent confidence level or better. Generalized standard error tables for each age group are included at the end of this report.

The survey was conducted, through a contract with the Corporation for Public Broadcasting (CPB), by Research Triangle Institute of Raleigh, North Carolina, as a subcontractor to CPB. Dr. John A. Riccobono was the Principal Investigator.

Notes

[1] Computers were defined as personal or home computers. Electronic games were excluded.

[2] Informal learning could have been structured or unstructured, an isolated event or part of a long-term learning project. It could have been actively sought by the learner or could have happened serendipitously.

[3] Intellectual learning was defined as acquiring skills or knowledge for their own sake (e.g., science, mathematics, foreign language).

[4] Practical or recreational learning was defined as learning how to do something and then applying that knowledge (e.g., sports, crafts, music, dance).

[5] Learning activity was defined as anything identified by the respondent, after prompting from the interviewer, as a learning experience. The most important learning activity was defined as the activity on which the learner had spent the most time, or the one that the learner (or proxy respondent) thought had produced the biggest change in the learner's life.

[6] U.S. Department of Education, Center for Statistics, *Use of Electronic Information Technologies for Non-school Learning in American Households*. Contract No. 300-83-0153, Washington, D.C., U.S. Government Printing Office, 1986.

[7] The following types of persons were excluded from the study: children under 2 years old, persons in households without telephones, and persons in households without English-speaking adults.

[8] Waksberg, Joseph, "Sampling Methods for Random Digit Dialing," *Journal of the American Statistical Association*, Vol. 73, No. 361 (March 1978): 40-46.

[9] Because the selection procedure called for sampling of households, with replacement, some households (and the associated respondents within those households) were expected to be selected more than once. Therefore, the targeted number of respondents listed includes such replication. The sampling design also provided for multiple persons to be selected in a few households. For example, with rare probability (0.5 percent), three or four people, but no more than one person in any age group, might be selected from a household.

Tables

Table 1

Percentage of Persons with Various Information Technologies Available By Age Group[a]

Technology in Household	Age Group: Adults (18 Yrs. and Older)	Teens (Age 12-17)	Youths (Age 6-11)	Pre-Schoolers (Age 2-5)
Television Set	99%	99%	99%	99%
Cable Television	48	51	53	53
Videocassette Recorder	29	35	34	33
Personal/Home Computer	13	26	22	17
Record Player/Stereo	87	93	91	89
Audiocassette/Tape Player	82	94	91	86
Number of Sample Cases	1752	564	1141	2316

[a] Analyses based on all sample members.

Table 2

Percentage of Adults with Various Information Technologies Available By Family Income Level[a]

Technology in Household	Total	Family Income Level: Less Than $10,000	$10,000–20,000	$20,000–40,000	More Than $40,000
Television Set	99%	99%	98%	99%	99%
Cable Television	48	31	47	52	55
Videocassette Recorder	29	15	21	26	51
Personal/Home Computer	13	3	7	12	26
Record Player/Stereo	87	69	87	89	93
Audiocassette/Tape Player	82	61	80	84	92
Number of Sample Cases	1491	197	352	596	346

[a] Analyses based on all adult sample members.

Table 3

Percentage of Young Children with Various Information Technologies Available By Age Group and Number of Parents in Household[a]

Technology/Resource in Household	2-5 yr. olds			6-11 yr. olds		
	Total	Single-Parent Household	Two-Parent Household	Total	Single-Parent Household	Two-Parent Household
Television Set	99%	99%	99%	99%	98%	99%
Cable Television	53	50	54	53	55	52
Videocassette Recorder	33	18	35	34	21	37
Personal/Home Computer	17	10	18	22	12	25
Record Player/Stereo	89	81	91	91	87	92
Audiocassette/Tape Player	86	77	87	91	92	90
Number of Cases	2205	333	1872	1099	194	905

[a] Analyses based on all sample members.

Table 4

Percentage Distribution of Brands of Computers in Households By Age Group[a]

Type (Brand) of Personal Computer	Age Group			
	Adults (18 Yrs. and Older)	Teens (Age 12-17)	Youths (Age 6-11)	Pre-Schoolers (Age 2-5)
Apple	18%	15%	13%	11%
Atari	4	9	12	8
Commodore	33	40	28	37
IBM	10	5	10	7
Radio Shack	7	10	8	8
Texas Instruments	16	15	22	17
Timex/Sinclair	3	1	1	3
Other	9	5	6	9
Number of Cases	212	145	247	369

[a] Analyses restricted to sample members in households with computers available.

Table 5

Percentage of Persons in Computer-Owning Households with Various Computer Peripherals Available By Age Group [a]

Computer Peripheral	Age Group			
	Adults (18 Yrs. and Older)	Teens (Age 12-17)	Youths (Age 6-11)	Pre-Schoolers (Age 2-5)
Printer	55%	41%	36%	42%
Disk Drive(s)	66	58	50	56
Monitor (other than TV screen)	48	43	41	39
Modem	14	13	13	19
None of the Above	24	32	38	32
Number of Sample Cases	215	145	250	372

[a] Analyses restricted to sample members in households with computers available.

Table 6

Percentage of Persons in Computer-Owning Households with Various Educational Software Available By Age Group[a]

Educational Software Available	Age Group			
	Adults (18 Yrs. and Older)	Teens (Age 12-17)	Youths (Age 6-11)	Pre-Schoolers (Age 2-5)
Spelling	30%	32%	53%	49%
Math	48	51	72	59
Educational Games	38	40	41	40
Reading	32	29	41	45
Computer Basics	63	67	62	62
Graphics	41	40	43	44
Other Educational Software	22	22	19	15
None	22	18	11	12
Number of Sample Cases	215	142	250	393

[a] Analyses restricted to sample members in households with computers available.

Table 7

Percentage Distribution of Hours Spent Using Computer By Age Group [a]

Typical Number of Hours Per Week Using Computer	Age Group			
	Adults (18 Yrs. and Older)	Teens (Age 12-17)	Youths (Age 6-11)	Pre-Schoolers (Age 2-5)
None	40%	20%	16%	39%
Less than 1 hour	11	11	16	13
1-5 hours	32	47	50	41
6-10 hours	6	15	13	4
11-15 hours	6	4	1	2
16-20 hours	1	2	3	0
More than 20 hours	4	1	1	1
Number of Sample Cases	218	147	257	393

[a] Analyses restricted to sample members in households with computers.

Table 8

Percentage Distribution of Hours Spent Using Computer By Age Group and Sex [a]

Number of Hours Per Week Using Computers	Adults (18 Yrs. and Older)		Teens (Age 12-17)		Youths (Age 6-11)		Pre-schoolers (Age 2-5)	
	Males	Females	Males	Females	Males	Females	Males	Females
None	27%	55%	14%	34%	10%	22%	29%	50%
Less than 1 hour	15	7	11	12	16	16	18	9
1-5 hours	38	24	48	45	50	49	45	37
6 hours or more	20	14	27	10	24	12	9	4
Number of Sample Cases	107	111	94	53	132	125	204	189

[a] Analyses restricted to sample members in households with computers.

Table 9

Percentage of Persons Using the Personal/Home Computer for Various Purposes By Age Group [a]

Use of Computer	Age Group		
	Adults (18 Yrs. and Older)	Teens (Age 12-17)	Youths (Age 6-11)
Entertainment	38%	75%	78%
Student Class Assignments	31	52	33
Job/Business Related Tasks	51	NA	NA
Household Recordkeeping	48	NA	NA
Word Processing	53	40	23
Learning About Computers	63	74	65
Original Programming	60	69	41
Other Uses	13	28	24
Number of Sample Cases	126	118	219

[a] Analyses restricted to sample members who used computers. Question was not included in the 2-5 year old interview.

Table 10

Percentage of Adults Reporting Extent of Actual Family Use of Personal/Home Computers Compared to Anticipated Use Prior to Purchasing Equipment [a]

Type of Computer Use	Actual Compared to Anticipated Use		
	More	About the Same	Less
Overall Use	25%	32%	43%
Educational	23	33	44
Personal/Family Finances	14	26	60
Word Processing	22	25	53
Games or Entertainment	22	25	53

[a] Analyses restricted to adult sample members in households with computers. (Number of Sample Cases = 214)

Table 11

Percentage of 2-5 Year Olds Employing Various Information Technologies/Resources in Their Most Important Learning Activity By Type of Learning [a]

Type of Technology/ Resource Used	Total	Type of Learning	
		Practical/ Recreational	Intellectual
Books/Magazines	83% (2226)	70% (631)	89% (1595)
TV Programs	76 (2226)	72 (631)	77 (1595)
Videocassettes	28 (730)	37 (197)	25 (533)
Records	48 (1992)	43 (566)	50 (1426)
Radio Programs	10 (2226)	10 (631)	9 (1595)
Audiocassettes	26 (1910)	21 (547)	27 (1363)
Computers	40 (380)	42 (107)	40 (273)

[a] Analyses restricted to sample members in households with appropriate technology available who reported some learning during the past year.

NOTE: Numbers in parentheses represent number of sample cases.

Table 12

Percentage of 6-11 Year Olds Employing Various Information Technologies/Resources in Their Most Important Learning Activity By Type of Learning [a]

Type of Technology/ Resource Used	Total	Type of Learning	
		Practical/ Recreational	Intellectual
Books/Magazines	77%	55%	90%
	(1070)	(398)	(672)
TV Programs	66	61	69
	(1070)	(398)	(672)
Videocassettes	24	20	26
	(372)	(138)	(234)
Records	34	20	42
	(975)	(370)	(605)
Radio Programs	14	14	14
	(1070)	(398)	(672)
Audiocassettes	19	12	23
	(965)	(361)	(604)
Computers	37	18	48
	(241)	(87)	(154)

[a] Analyses restricted to sample members in households with appropriate technology available who reported some learning during the past year.

NOTE: Numbers in parentheses represent number of sample cases.

Table 13
Percentage of 12-17 Year Olds Employing Various Information Technologies/Resources in Their Most Important Learning Activity By Type of Learning [a]

Type of Technology/ Resource Used	Total	Type of Learning	
		Practical/ Recreational	Intellectual
Books/Magazines	77%	67%	85%
	(548)	(256)	(292)
TV Programs	55	55	55
	(548)	(256)	(292)
Videocassettes	24	26	22
	(198)	(80)	(118)
Records	18	15	20
	(510)	(243)	(267)
Radio Programs	18	17	20
	(548)	(256)	(292)
Audiocassettes	13	10	16
	(514)	(241)	(273)
Computers	37	15	52
	(142)	(55)	(87)

[a] Analyses restricted to sample members in households with appropriate technology available who reported some learning during the past year.
NOTE: Numbers in parentheses represent number of sample cases.

Table 14
Percentage of Adults Employing Various Information Technologies/Resources in Their Most Important Learning Activity By Type of Learning [a]

Type of Technology/ Resource Used	Total	Type of Learning	
		Practical/ Recreational	Intellectual
Books/Magazines	81% (1519)	74% (592)	86% (927)
TV Programs	41 (1519)	33 (592)	46 (927)
Videocassettes	17 (448)	10 (169)	21 (279)
Records	12 (1321)	10 (527)	14 (794)
Radio Programs	20 (1519)	12 (592)	26 (927)
Audiocassettes	15 (1263)	10 (505)	19 (758)
Computers	26 (205)	12 (60)	32 (145)

[a] Analyses restricted to sample members in households with appropriate technology available who reported some learning during the past year.

NOTE: Numbers in parentheses represent number of sample cases.

Table 15

Percentage Distribution of Most Important Learning Activities Among 2-5 Year Olds By Type and Mix of Technology/Resources Used

Most Important Learning Activity	Total[a]	Type of Technology/Resources Used[b]						
		No Print or Technology	Print Only	Electronic Only	Print and Audio	Print and Video	Print, Audio, and Video	Print, Audio, Video, and Computers
Practical/Recreational:								
Sports/Motor Skills	6%	26%	4%	16%	*	2%	3%	6%
Games	1	*	1	3	2	*	1	2
Social Skills	14	16	9	14	5	16	15	18
Art	2	1	9	2	1	3	1	1
Music	1	1	*	8	2	*	1	2
Dance/Theatre	1	1	*	2	2	*	*	*
Household Chores	2	6	2	1	1	2	1	*
Camping/Outdoor Survival	1	4	*	2	*	1	*	*
Other	*	2	1	*	*	*	*	*
Total Practical/Recreational	28	57	27	48	13	25	22	29
Intellectual:								
Science	1	1	*	*	*	1	*	*
Reading	25	2	19	8	29	24	30	42
Writing	8	2	19	5	3	11	8	7
Foreign Language	*	1	*	1	*	*	1	*
Social Relationships	8	10	7	12	8	7	9	8
Speech	6	6	6	3	2	5	9	5
Health/Hygiene/Safety	2	2	5	3	4	3	2	*
Geography/Local Directions	1	4	*	*	*	1	*	*
Animals/Nature Study	2	1	*	1	*	6	2	1
Math	5	4	2	6	2	8	4	3
Poetry/Nursery Rhymes	1	*	*	1	2	1	2	*
Religion	5	5	11	3	33	2	5	*
Careers (Awareness)	*	1	*	*	*	*	*	*
Family Relationships	3	4	1	3	2	4	3	1
Sex Education	*	*	*	3	*	*	*	*
Computers	1	*	*	3	*	*	*	1
Other	2	*	2	1	2	1	3	2
Total Intellectual	72	43	73	52	87	75	78	71
Number of Sample Cases	2229	157	184	206	104	486	756	229

[a] Analyses based on all sample members reporting some learning during the past year.

[b] Categories are mutually exclusive but not exhaustive (i.e., other resource combinations also exist); therefore, sample cases for individual categories will not sum to total.

* Indicates a positive percentage less than 0.5.

Table 16

Percentage Distribution of Most Important Learning Activities Among 6-11 Year Olds By Type and Mix of Technology/Resources Used

Most Important Learning Activity	Total[a]	Type of Technology/Resources Used[b]					
		No Print or Technology	Print Only	Audio and/or Video	Print and Video	Print, Audio, and Video	Computers With/Without Other Resources
Practical/Recreational:							
Sports/Motor Skills	18%	40%	7%	46%	24%	6%	14%
Games	2	4	1	1	*	1	2
Crafts	1	2	3	1	*	*	2
Art	5	4	6	4	8	1	6
Music	4	8	6	3	*	4	2
Dance/Theatre	2	1	*	11	*	2	*
Household Chores	3	8	3	*	2	3	2
Camping/Outdoor Survival	2	5	6	7	1	*	*
Business/Jobs	*	1	*	*	*	*	*
Other	1	1	2	*	1	1	*
Total Practical/Recreational	37	74	34	73	37	18	28
Intellectual:							
Science	4	*	6	*	9	2	4
Reading	21	1	23	4	13	40	26
Writing	2	4	1	*	5	1	1
Foreign Language	*	1	*	*	*	*	*
Social Relationships	8	3	4	9	8	10	10
Health/Hygiene/Safety	1	1	1	*	3	1	1
History	1	*	*	*	2	1	2
Geography/Local Directions	1	*	*	*	1	*	1
Civics/Government	*	*	*	*	*	2	*
Animals/Nature Study	4	*	6	3	8	4	2
Math	3	5	6	1	3	1	5
Poetry/Nursery Rhymes	*	*	1	*	*	1	*
Religion	8	*	11	3	3	16	1
Careers (Exploration, Awareness)	*	2	*	2	*	*	*
Family Development/ Relationships	2	4	1	2	2	1	1
Sex Education	1	*	3	2	2	*	*
Computers	4	2	1	*	*	*	16
Other	2	3	2	1	3	2	1
Total Intellectual	63	26	66	27	63	82	72
Number of Sample Cases	1099	108	134	106	204	215	268

[a] Analysis based on all sample members reporting some learning during the past year.

[b] Categories are mutually exclusive but not exhaustive (i.e., other resource combinations also exist); therefore, sample cases for individual categories will not sum to total.

* Indicates a positive percentage less than 0.5.

Table 17

Percentage Distribution of Most Important Learning Activities Among 12-17 Year Olds By Type and Mix of Technology/Resources Used

Most Important Learning Activity	Total [a]	Type of Technology/Resources Used [b]	
		Print Only	Print and Video
Practical/Recreational:			
Sports/Motor Skills	19%	8%	23%
Games	*	*	*
Crafts	1	4	*
Art	2	5	5
Music	6	6	1
Dance/Theatre	3	*	2
Household Chores/Maintenance	4	8	2
Camping/Outdoor Survival	3	5	6
Business/Jobs/Personal Finance	3	6	1
Child Care	1	1	1
Driving a Car	3	7	2
First Aid/Lifesaving	1	3	1
Other	1	*	2
Total Practical/Recreational	47	55	45
Intellectual:			
Science	3	4	6
Reading	6	6	6
Writing	1	3	1
Foreign Language	1	*	1
Social Relationships	7	4	10
Health/Hygiene/Safety	1	*	2
History	1	1	2
Geography	1	2	1
Civics/Government	1	1	1
Animals/Nature Study	2	2	3
Math	4	4	7
Poetry/Nursery Rhymes	1	2	*
Religion	5	8	2
Careers (Preparation, Exploration)	4	2	4
Family Development/Relationships	3	1	2
Sex Education	1	*	3
Computers	11	4	1
Other	2	1	3
Total Intellectual	53	45	55
Number of Sample Cases	548	104	109

[a] Analysis based on all sample members reporting some learning during the past year.

[b] Categories are mutually exclusive but not exhaustive (i.e., other resource combinations also exist); therefore, sample cases for individual categories will not sum to total.

* Indicates a positive percentage less than 0.5.

Table 18

Percentage Distribution of Most Important Learning Activities Among Adults By Type and Mix of Technology/Resources Used

Most Important Learning Activity	Total [a]	Type of Technology/Resources Used [b]			
		No Print or Technology	Print Only	Print and Video	Print, Audio, and Video
Practical/Recreational:					
Sports/Motor Skills	8%	13%	7%	12%	6%
Games	1	2	1	*	1
Crafts	5	11	9	2	*
Art	1	*	2	1	2
Music	2	1	*	*	3
Dance/Theatre	*	*	*	*	1
Household Chores/Maintenance	6	7	10	6	3
Camping/Outdoor Survival	2	3	3	2	2
Business/Jobs/Personal Finance	6	9	5	4	3
Child Care	4	5	5	7	5
Driving a Car	1	5	*	*	*
First Aid/Lifesaving	1	*	2	1	*
Other	2	3	4	2	*
Total Practical/Recreational	40	59	50	37	25
Intellectual:					
Science	3	*	3	3	4
Reading	6	2	9	5	8
Writing	1	*	2	2	1
Foreign Language	1	*	*	1	1
Social Relationships	4	7	2	5	3
Health/Hygiene/Safety	6	4	5	13	9
History	2	*	*	3	6
Geography	*	*	*	1	*
Civics/Government	2	*	*	4	4
Animals/Nature Study	2	1	3	4	2
Math	2	3	1	1	*
Poetry/Nursery Rhymes	*	1	*	*	*
Religion	11	4	5	8	25
Careers (Preparation, Exploration)	6	7	6	5	3
Family Development/Relationships	4	3	2	6	5
Computers	8	6	5	1	1
Other	3	2	5	2	4
Total Intellectual	60	41	50	63	75
Number of Sample Cases	1519	204	456	252	279

[a] Analysis based on all sample members reporting some learning during the past year.

[b] Categories are mutually exclusive but not exhaustive (i.e., other resource combinations also exist); therefore, sample cases for individual categories will not sum to total.

* Indicates a positive percentage less than 0.5.

Table 19

Percentage of 2-5 Year Olds Employing Various Information Technologies/Resources in Their Most Important Learning Activity By Learning Style Preferences[a]

Type of Technology/ Resource Used	Total	Prefer Individual to Group Learning		Prefer People Over Books as Information Source		Prefer Setting Learning Pace to Having Pace Set By Others	
		Agree	Disagree	Agree	Disagree	Agree	Disagree
Books/Magazines	83% (2180)	80% (575)	85% (1605)	78% (724)	86% (1410)	83% (1556)	83% (623)
TV Programs	76 (2179)	73 (575)	77 (1604)	75 (722)	77 (1411)	75 (1555)	77 (623)
Videocassettes	28 (716)	22 (174)	31 (542)	29 (229)	29 (461)	28 (514)	29 (203)
Records	48 (1950)	45 (514)	49 (1436)	46 (630)	50 (1279)	47 (1389)	51 (561)
Radio Programs	10 (2181)	11 (576)	9 (1605)	12 (724)	9 (1411)	10 (1557)	8 (623)
Audiocassettes	26 (1871)	25 (479)	26 (1392)	29 (623)	24 (1204)	26 (1328)	25 (539)
Computer Games/Programs	40 (375)	46 (90)	39 (285)	42 (137)	40 (229)	44 (288)	31 (84)

[a] Analyses restricted to sample members in households with appropriate technology available who reported some learning during the past year.

NOTE: Numbers in parentheses represent number of sample cases.

Table 20

Percentage of 6-11 Year Olds Employing Various Information Technologies/Resources in Their Most Important Learning Activity By Learning Style Preferences[a]

Type of Technology/ Resource Used	Total	Prefer Individual to Group Learning		Prefer People Over Books as Information Source		Prefer Setting Learning Pace to Having Pace Set By Others	
		Agree	Disagree	Agree	Disagree	Agree	Disagree
Books/Magazines	77% (1080)	79% (425)	75% (655)	70% (648)	85% (426)	78% (905)	72% (178)
TV Programs	66 (1080)	70 (425)	64 (655)	65 (648)	67 (428)	66 (904)	63 (178)
Videocassettes	24 (371)	29 (160)	20 (211)	25 (232)	23 (144)	25 (315)	23 (63)
Records	34 (984)	32 (381)	34 (603)	32 (581)	36 (398)	34 (825)	33 (163)
Radio Programs	14 (1080)	15 (425)	13 (655)	13 (647)	16 (428)	13 (905)	17 (177)
Audiocassettes	19 (976)	17 (380)	20 (596)	17 (588)	21 (381)	19 (820)	18 (158)
Computer Games/Programs	37 (248)	41 (104)	33 (144)	38 (152)	33 (96)	37 (211)	33 (38)

[a] Analyses restricted to sample members in households with appropriate technology available who reported some learning during the past year.

NOTE: Numbers in parentheses represent number of sample cases.

Table 21

Percentage of 12-17 Year Olds Employing Various Information Technologies/Resources in Their Most Important Learning Activity By Learning Style Preferences[a]

Type of Technology/ Resource Used	Total	Prefer Individual to Group Learning		Prefer People Over Books as Information Source		Prefer Setting Learning Pace to Having Pace Set By Others	
		Agree	Disagree	Agree	Disagree	Agree	Disagree
Books/Magazines	77%	81%	73%	72%	86%	77%	79%
	(535)	(274)	(261)	(310)	(217)	(457)	(78)
TV Programs	54	50	58	49	59	53	59
	(535)	(274)	(261)	(310)	(217)	(458)	(78)
Videocassettes	24	26	21	22	27	21	33
	(195)	(101)	(94)	(113)	(79)	(157)	(32)
Records	18	17	19	15	23	18	19
	(499)	(253)	(246)	(296)	(195)	(435)	(68)
Radio Programs	18	19	17	17	20	18	21
	(533)	(273)	(260)	(307)	(217)	(455)	(78)
Audiocassettes	13	12	14	13	13	12	19
	(504)	(254)	(250)	(293)	(200)	(428)	(75)
Computer Games/Programs	37	42	36	35	45	40	28
	(137)	(67)	(70)	(78)	(55)	(117)	(21)

[a] Analyses restricted to sample members in households with appropriate technology available who reported some learning during the past year.

NOTE: Numbers in parentheses represent number of sample cases.

Table 22

Percentage of Adults Employing Various Information Technologies/Resources in Their Most Important Learning Activity By Learning Style Preferences[a]

Type of Technology/ Resource Used	Total	Prefer Individual to Group Learning		Prefer People Over Books as Information Source		Prefer Setting Learning Pace to Having Pace Set By Others	
		Agree	Disagree	Agree	Disagree	Agree	Disagree
Books/Magazines	81% (1484)	77% (731)	85% (753)	75% (679)	87% (773)	82% (1212)	76% (276)
TV Programs	41 (1484)	39 (731)	41 (753)	39 (679)	42 (773)	41 (1212)	40 (276)
Videocassettes	17 (442)	19 (209)	14 (233)	17 (208)	17 (226)	17 (363)	15 (82)
Records	12 (1294)	10 (634)	13 (660)	10 (584)	12 (686)	11 (1060)	14 (239)
Radio Programs	20 (1482)	18 (731)	21 (751)	20 (677)	19 (773)	19 (1212)	23 (274)
Audiocassettes	16 (1238)	12 (592)	18 (646)	14 (553)	16 (660)	15 (1001)	15 (239)
Computer Games/Programs	26 (200)	33 (106)	20 (94)	30 (82)	24 (119)	27 (168)	21 (35)

[a] Analyses restricted to sample members in households with appropriate technology available who reported some learning during the past year.

NOTE: Numbers in parentheses represent number of sample cases.

Table 23

Percentage of Persons Who Were Aware of Specific Materials That Were or Could Have Been Helpful in Learning Activity By Age Group[a]

Type of Learning Material/Resource	Age Group			
	Adults (18 Yrs. and Older)	Teens (Age 12-17)	Youths (Age 6-11)	Pre-Schoolers (Age 2-5)
Print	87%	83%	82%	88%
	(1519)	(548)	(1125)	(2226)
Video	57	66	74	86
	(1519)	(548)	(1125)	(2226)
Audio	43	36	51	65
	(1519)	(548)	(1125)	(2226)
Computers	36	47	48	58
	(205)	(141)	(252)	(380)

[a] Analyses based on sample members with appropriate technology/resources available who reported some learning during the past year.

NOTE: Numbers in parentheses represent number of sample cases.

Table 24

Percentage of Learners Who Were Aware of Potentially Helpful Program Materials/Resources That Used Them in Their Most Important Learning By Age Group[a]

Type of Learning Resource Used	Age Group			
	Adults (18 Yrs. and Older)	Teens (Age 12-17)	Youths (Age 6-11)	Pre-Schoolers (Age 2-5)
Print	94%	93%	94%	94%
	(1307)	(452)	(902)	(1967)
Video	80	85	91	91
	(842)	(360)	(805)	(1898)
Audio	75	81	84	83
	(630)	(197)	(550)	(1429)
Computers	73	81	76	70
	(67)	(64)	(118)	(221)

[a] Analyses restricted to sample members with appropriate technology/resources available and who indicated awareness of specified technology/resource that could have been helpful in learning activity.

NOTE: Numbers in parentheses represent number of sample cases.

Table 25

Percentage of Persons Who Did Not Use Various Information Technologies/Resources in Their Most Important Learning That Indicated They Were Unaware of Any Potentially Helpful Program Material/Resources By Age Group[a]

Type of Learning Material/Resource	Age Group			
	Adults (18 Yrs. and Older)	Teens (Age 12-17)	Youths (Age 6-11)	Pre-Schoolers (Age 2-5)
Print	72%	76%	78%	71%
	(289)	(124)	(256)	(361)
Video	79	78	80	64
	(846)	(241)	(363)	(503)
Audio	84	90	86%	76
	(1042)	(388)	(637)	(1036)
Computers	87	86	82	71
	(157)	(89)	(164)	(224)

[a] Analyses restricted to sample members with appropriate technology/resources available but who did not use particular technology in their learning activity.

NOTE: Numbers in parentheses represent number of sample cases.

Table 26

Attitudes Toward Learning Resources By Type of Learning: 2-5 Year Olds[a]

Perceived Helpfulness of Learning Resource	Total	Type of Learning	
		Practical/Recreational	Intellectual
Books/Magazines			
Very Helpful	68%	53%	75%
Somewhat Helpful	26	37	22
Not Helpful	6	10	3
TV Programs on a Regular Channel			
Very Helpful	40	36	41
Somewhat Helpful	35	33	36
Not Helpful	25	31	23
TV Programs on a Cable Channel			
Very Helpful	30	27	31
Somewhat Helpful	33	37	32
Not Helpful	37	36	37
Videocassettes			
Very Helpful	17	16	18
Somewhat Helpful	29	30	28
Not Helpful	54	54	54
Records			
Very Helpful	28	22	30
Somewhat Helpful	39	41	38
Not Helpful	33	37	32
Radio Programs			
Very Helpful	6	5	6
Somewhat Helpful	24	24	24
Not Helpful	70	71	70
Audiocassettes			
Very Helpful	20	16	22
Somewhat Helpful	28	28	29
Not Helpful	52	56	49
Computer Games or Programs			
Very Helpful	24	17	27
Somewhat Helpful	25	27	25
Not Helpful	51	56	48
Number of Sample Cases	2225	631	1594

[a] Analyses based on all sample members reporting some learning during the past year.

Table 27

Attitudes Toward Learning Resources By Type of Learning: 6-11 Year Olds[a]

Perceived Helpfulness of Learning Resource	Total	Type of Learning	
		Practical/Recreational	Intellectual
Books/Magazines			
Very Helpful	56%	31%	72%
Somewhat Helpful	32	45	24
Not Helpful	12	24	4
TV Programs on a Regular Channel			
Very Helpful	30	26	32
Somewhat Helpful	39	43	37
Not Helpful	31	31	31
TV Programs on a Cable Channel			
Very Helpful	25	22	26
Somewhat Helpful	30	32	29
Not Helpful	45	46	45
Videocassettes			
Very Helpful	18	18	19
Somewhat Helpful	25	23	27
Not Helpful	57	59	54
Records			
Very Helpful	20	13	24
Somewhat Helpful	31	26	34
Not Helpful	49	61	42
Radio Programs			
Very Helpful	8	6	9
Somewhat Helpful	23	18	26
Not Helpful	69	76	65
Audiocassettes			
Very Helpful	14	10	17
Somewhat Helpful	28	22	31
Not Helpful	58	68	52
Computer Games or Programs			
Very Helpful	22	14	27
Somewhat Helpful	55	26	25
Not Helpful	53	60	48
Number of Sample Cases	1068	399	669

[a] Analyses based on all sample members reporting some learning during the past year.

Table 28
Attitudes Toward Learning Resources
By Type of Learning: 12-17 Year Olds[a]

Perceived Helpfulness of Learning Resource	Total	Type of Learning	
		Practical/Recreational	Intellectual
Books/Magazines			
Very Helpful	52%	41%	61%
Somewhat Helpful	37	44	31
Not Helpful	11	15	8
TV Programs on a Regular Channel			
Very Helpful	26	28	25
Somewhat Helpful	40	44	36
Not Helpful	34	28	39
TV Programs on a Cable Channel			
Very Helpful	26	25	27
Somewhat Helpful	28	33	23
Not Helpful	46	42	50
Videocassettes			
Very Helpful	20	22	18
Somewhat Helpful	24	27	21
Not Helpful	56	51	61
Records			
Very Helpful	14	14	14
Somewhat Helpful	23	23	23
Not Helpful	63	63	63
Radio Programs			
Very Helpful	12	12	12
Somewhat Helpful	25	26	25
Not Helpful	63	62	63
Audiocassettes			
Very Helpful	15	12	18
Somewhat Helpful	24	28	20
Not Helpful	61	60	62
Computer Games or Programs			
Very Helpful	23	13	31
Somewhat Helpful	24	27	21
Not Helpful	53	60	48
Number of Sample Cases	548	256	292

[a] Analyses based on all sample members reporting some learning during the past year.

Table 29

Attitudes Toward Learning Resources
By Type of Learning: 18 Year Olds and Older[a]

Perceived Helpfulness of Learning Resource	Total	Type of Learning	
		Practical/Recreational	Intellectual
Books/Magazines			
Very Helpful	62%	54%	68%
Somewhat Helpful	28	33	24
Not Helpful	10	13	8
TV Programs on a Regular Channel			
Very Helpful	23	20	25
Somewhat Helpful	33	32	34
Not Helpful	44	48	41
TV Programs on a Cable Channel			
Very Helpful	20	17	22
Somewhat Helpful	25	26	25
Not Helpful	55	57	53
Videocassettes			
Very Helpful	15	15	15
Somewhat Helpful	22	19	24
Not Helpful	63	66	61
Records			
Very Helpful	11	9	11
Somewhat Helpful	20	17	23
Not Helpful	69	74	66
Radio Programs			
Very Helpful	12	8	14
Somewhat Helpful	23	18	27
Not Helpful	65	74	59
Audiocassettes			
Very Helpful	14	11	16
Somewhat Helpful	21	17	24
Not Helpful	65	72	60
Computer Games or Programs			
Very Helpful	13	10	15
Somewhat Helpful	15	12	17
Not Helpful	72	78	68
Number of Sample Cases	1498	588	910

[a] Analyses based on all sample members reporting some learning during the past year.

Generalized Standard Errors

Table A.—Generalized Standard Errors for 2-to-5-Year-Olds

Sample Size	Percentage[a] 1 / 99	5 / 95	10 / 90	20 / 80	25 / 75	30 / 70	35 / 65	40 / 60	45 / 55	50 / 50
2300	.271	.594	.818	1.091	1.181	1.250	1.301	1.336	1.357	1.364
2000	.291	.637	.877	1.170	1.266	1.340	1.395	1.433	1.455	1.462
1700	.316	.691	.952	1.269	1.374	1.454	1.513	1.554	1.578	1.586
1400	.348	.762	1.049	1.398	1.514	1.602	1.667	1.712	1.739	1.748
1100	.392	.859	1.183	1.577	1.707	1.807	1.881	1.932	1.962	1.972
800	.460	1.008	1.387	1.850	2.002	2.119	2.205	2.265	2.300	2.312
500	.582	1.275	1.755	2.340	2.533	2.680	2.790	2.865	2.910	2.924
300	.751	1.646	2.265	3.020	3.270	3.460	3.602	3.699	3.756	3.755
250	.823	1.803	2.481	3.309	3.582	3.790	3.945	4.052	4.473	4.136
200	.920	2.016	2.774	3.699	4.004	4.238	4.411	4.530	4.601	4.624
150	1.062	2.327	3.204	4.271	4.624	4.893	5.093	5.231	5.312	5.339
100	1.301	2.850	3.924	5.231	5.663	5.993	6.238	6.407	6.506	6.539
75	1.503	3.291	4.530	6.041	6.539	6.920	7.203	7.398	7.513	7.551
50	1.840	4.031	5.549	8.009	8.009	8.476	8.822	9.061	9.201	9.248

NOTE: Based on Average Design Effect of 1.71044.

[a] Standard errors are identical for two percentages that are symmetric about 50 percent; thus, paired symmetric percentages are provided.

Table B.—Generalized Standard Errors for 6-to-11-Year-Olds

Sample Size	Percentage[a] 1 / 99	5 / 95	10 / 90	20 / 80	25 / 75	30 / 70	35 / 65	40 / 60	45 / 55	50 / 50
1100	.371	.813	1.119	1.493	1.616	1.710	1.780	1.828	1.856	1.866
1000	.389	.853	1.174	1.565	1.695	1.793	1.867	1.917	1.947	1.957
900	.410	.899	1.238	1.650	1.786	1.890	1.968	2.021	2.052	2.063
800	.435	.954	1.313	1.750	1.895	2.005	2.087	2.144	2.177	2.188
700	.465	1.019	1.403	1.871	2.025	2.144	2.231	2.292	2.327	2.339
600	.503	1.101	1.516	2.021	2.188	2.315	2.410	2.475	2.514	2.526
500	.551	1.206	1.660	2.214	2.397	2.536	2.640	2.711	2.753	2.767
400	.616	1.349	1.856	2.475	2.679	2.836	2.951	3.031	3.078	3.094
300	.711	1.557	2.144	2.858	3.094	3.274	3.408	3.500	3.555	3.573
250	.779	1.706	2.348	3.131	3.389	3.587	3.733	3.834	3.894	3.914
200	.871	1.907	2.625	3.500	3.789	4.010	4.174	4.287	4.354	4.375
150	1.005	2.202	3.031	4.042	4.375	4.631	4.820	4.950	5.027	5.052
100	1.231	2.697	3.713	4.950	5.359	5.671	5.903	6.063	6.157	6.188
75	1.422	3.115	4.287	5.716	6.188	6.549	6.816	7.001	7.109	7.145
50	1.660	3.814	5.251	7.001	7.579	8.020	8.348	8.574	8.707	8.751

NOTE: Based on Average Design Effect of 1.5316.

[a] Standard errors are identical for two percentages that are symmetric about 50 percent; thus, paired symmetric percentages are provided.

Table C.—Generalized Standard Errors for 12-to-17-Year-Olds

Sample Size	Percentage[a] 1 / 99	5 / 95	10 / 90	20 / 80	25 / 75	30 / 70	35 / 65	40 / 60	45 / 55	50 / 50
550	.501	1.098	1.512	2.016	2.182	2.309	2.404	2.469	2.507	2.520
500	.526	1.152	1.586	2.114	2.289	2.422	2.521	2.589	2.629	2.643
450	.554	1.214	1.671	2.228	2.412	2.553	2.657	2.729	2.772	2.786
400	.588	1.288	1.773	2.364	2.559	2.708	2.818	2.895	2.940	2.955
350	.629	1.377	1.895	2.527	2.735	2.895	3.013	3.095	3.143	3.159
300	.679	1.487	2.047	2.729	2.955	3.127	3.254	3.343	3.395	3.412
250	.744	1.629	2.242	2.990	3.237	3.425	3.565	3.662	3.719	3.737
200	.831	1.821	2.507	3.343	3.619	3.830	3.986	4.094	4.157	4.178
150	.960	2.103	2.895	3.860	4.178	4.422	4.603	4.727	4.801	4.825
100	1.176	2.576	3.545	4.727	5.117	5.416	5.637	5.790	5.879	5.909
75	1.358	2.974	4.094	5.459	5.909	6.254	6.509	6.685	6.789	6.823
50	1.663	3.643	5.014	6.685	7.237	7.659	7.972	8.118	8.315	8.357

NOTE: Based on Average Design Effect of 1.3967.

[a] Standard errors are identical for two percentages that are symmetric about 50 percent; thus, paired symmetric percentages are provided.

Table D.—Generalized Standard Errors for Adults (18 Years Old or Older)

Sample Size	Percentage[a] 1 / 99	5 / 95	10 / 90	20 / 80	25 / 75	30 / 70	35 / 65	40 / 60	45 / 55	50 / 50
1700	.296	.647	.891	1.188	1.286	1.361	1.417	1.455	1.478	1.485
1500	.315	.689	.949	1.265	1.369	1.449	1.508	1.549	1.573	1.581
1300	.338	.740	1.019	1.359	1.471	1.557	1.620	1.664	1.690	1.698
1100	.367	.805	1.108	1.477	1.599	1.692	1.761	1.809	1.837	1.846
900	.406	.890	1.225	1.633	1.768	1.871	1.947	2.000	2.031	2.041
700	.461	1.009	1.389	1.852	2.004	2.121	2.208	2.268	2.303	2.314
500	.545	1.194	1.643	2.191	2.372	2.510	2.612	2.683	2.725	2.738
300	.704	1.541	2.121	2.828	3.062	3.240	3.373	3.464	3.518	3.535
250	.773	1.688	2.324	3.098	3.354	3.549	3.694	3.795	3.853	3.873
200	.862	1.887	2.598	3.464	3.750	3.968	4.130	4.242	4.308	4.330
150	.995	2.179	3.000	3.266	4.330	4.582	4.769	4.899	4.975	5.000
100	1.219	2.669	3.674	4.899	5.303	5.612	5.841	6.000	6.093	6.123
75	1.407	3.082	4.242	5.657	6.123	6.480	6.745	6.928	7.035	7.071
50	1.723	3.775	5.196	6.928	7.500	7.937	8.261	8.485	8.616	8.660

NOTE: Based on Average Design Effect of 1.49984.

[a] Standard errors are identical for two percentages that are symmetric about 50 percent; thus, paired symmetric percentages are provided.

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